

IN THE CLAIMS:

1. (Currently Amended) A welding torch device of a welding robot, which is provided for electric arc welding or MIG or MAG welding, whereby the welding robot has a robot arm, on which is provided a connection device which can be rotated in relation to the robot arm, the device comprising:

a fixing device for attaching the welding torch device to the welding robot;

a receiving device for holding a welding torch and for transferring driven rotatory motions to the welding torch, the receiving device establishing a welding torch rotational axis which is coaxial with the connection device of the robot arm;

an electrical connection for a welding power cable, by means of which a robot side of the welding torch device ~~can be~~ is electrically connected to a welding power source;

a current transfer device, via which the welding power cable ~~can be~~ is electrically connected to a welding torch side of the welding torch device, wherein the current transfer device has a stator, which is provided for the rotationally fixed arrangement in relation to the robot arm, with the welding power cable connected to the stator in a non-rotatable manner, but ~~can be~~ is rotated in relation to the connection device on the welding robot side;

an essentially centric leadthrough of the stator, through which expendable supply material required for the welding process ~~can be~~ is guided in the direction of the receiving device, wherein the receiving device and the fixing device are embodied as rotors, which, as a result, are rotatable in relation to the stator, and at least one of the receiving device and ~~the~~ the fixing device ~~are~~ is connected to the stator in an electrically conductive manner by means

of an electric contact means, the fixing device of the rotor being ~~designed~~ for attaching to the connection device of the robot, the stator being an inner stator which is surrounded by the rotor as an outer rotor with the stator led through the connection device of the robot arm, whereby, by means of the attaching to the connection device of the robot, a rotational axis of the outer rotor is at least essentially aligned with ~~the~~ a rotational axis of the connection device of the robot and the outer rotor ~~can be~~ is rotated about the rotational axis of the outer rotor as well as about the inner stator.

2. (Previously Presented) A welding torch device in accordance with claim 1, wherein a longitudinal axis of the leadthrough is aligned with the rotational axis of the connection device.

3. (Previously Presented) A welding torch device in accordance with claim 1, wherein the stator has a rotationally fixed electric connection for the welding cable, through which the rotational axis of the connection device runs whereby the electrical connection is arranged within the stator.

4. (Currently Amended) A welding torch device in accordance with claim 1, further comprising: a ~~lead through~~ leadthrough of the receiving device for welding wire for the welding torch, whereby the leadthrough of the stator and the leadthrough of the receiving device run at least essentially coaxially to one another.

5. (Currently Amended) A welding torch device in accordance with claim 1, wherein:

the connection device comprises a connection flange on the robot side;

a longitudinal axis of a recess of the leadthrough of the stator runs at least essentially coaxially to ~~the~~ a rotational axis of ~~the~~ rotatory motion of the connection flange on the robot side.

6. (Currently Amended) A welding torch device in accordance with claim 1, wherein:

the electrical connection for the welding power is lead through the fixing device with which the welding torch device is attachable to the connection device of the robot, whereby the rotational axis with which the rotor is rotatable is at least essentially aligned to the  
5 rotational axis of the connection device; and

a common rotational axis of the fixing device and of the receiving device runs coaxially to a longitudinal axis of the leadthrough of the stator.

7. (Previously Presented) A welding torch device in accordance with claim 1, further comprising insulating medium, which electrically insulates the fixing device from the stator, whereby the stator and the receiving device are connected to one another in an electrically conductive manner by means of a stator to receiving device contact means.

8. (Currently Amended) A welding torch device in accordance with claim 7, wherein

the stator to receiving device contact means has elements, which are rotated together with the rotor about an axis, whereby the rotational axis axes of the[[se]] elements are aligned with the rotational axis of the connection device of the robot.

9. (Previously Presented) A welding torch device in accordance with claim 7, wherein the contact means is embodied as a sliding contact means.

10. (Currently Amended) A welding torch device in accordance with claim 9, further comprising a force means, with which at least one said sliding contact element of the sliding contact means ~~can be~~ is pressed against a contact partner.

11. (Currently Amended) A welding torch device in accordance with claim 10, further comprising another force means and another contact partner wherein two force means and two contact partners are provided, with which the at least one sliding contact element ~~can be~~ is pressed against the contact partners in the axial and radial directions in relation to the axis of the rotatory motion.

12. (Currently Amended) A welding torch device in accordance with claim 11, wherein the force means are springy, and the at least one sliding contact element ~~can be~~ is pressed against both a first contact partner radially surrounding the leadthrough and a second contact partner axially offset to the sliding contact element.

13. (Previously Presented) A welding torch device in accordance with claim 9, further comprising: a bell-shaped section of the stator, in which the sliding contact means is arranged.

14. (Currently Amended) A welding torch device in accordance with claim 1, further comprising: insulating medium, by means of which the fixing device ~~can be~~ is electrically insulated against the current transfer device.

15. (Currently Amended) A welding torch device in accordance with claim 1, wherein the leadthrough is provided with a recess , through which both welding wire and inert gas ~~can be~~ is fed to the welding torch as the expendable supply material .

16. (Previously Presented) A welding torch device in accordance with claim 15, wherein the electric connection for the welding power cable is part of a wall defining the recess.

17. (Canceled)

18. (Currently Amended) A welding robot for welding workpieces, the welding robot comprising:

a folding arm robot provided with a connection flange having a connection flange rotational axis; and

5 a welding torch device connected to said flange, said welding torch device comprising  
a fixing device for attaching the welding torch device to the welding robot, a receiving device  
for holding a welding torch, having a welding torch rotational axis that is coaxial with the  
connection flange rotational axis, and for transferring driven rotatory motions to the welding  
torch, an electrical connection for a welding power cable, by means of which a robot side of  
10 the welding torch device ~~can be~~ is electrically connected to a welding power source, a current  
transfer device, via which the welding power cable ~~can be~~ is electrically connected to a welding  
torch side of the welding torch device, wherein the current transfer device has a stator, which  
is provided for ~~the a~~ a rotationally fixed arrangement in relation to the robot arm, but ~~can be~~ is  
rotated in relation to the connection flange on the welding robot side, the welding power cable  
15 being connected to the stator in a non-rotatable manner, the stator including an essentially  
centric leadthrough ~~of the stator~~, through which expendable supply material required for ~~the~~  
a welding process ~~can be~~ is guided in the direction of the receiving device, wherein the  
receiving device is embodied as a receiving device rotor and the fixing device is embodied as  
a fixing device rotor, rotatable in relation to the stator, and at least one of the receiving device  
20 and ~~[[/or]]~~ the fixing device ~~can be~~ is connected to the stator in an electrically conductive  
manner by means of an electric contact means, the stator being an inner stator which is  
surrounded by the ~~the~~ fixing device rotor as an outer rotor, the stator being led through the  
connection flange of the robot arm, the fixing device rotor attaching to the connection flange  
of the robot, whereby, by means of the attaching to the connection flange of the robot, a  
25 rotational axis of the outer rotor is at least essentially aligned with ~~the rotational axis of the~~

connection flange rotational axis of the robot and the outer rotor is rotatable about the rotational axis as well as about the inner stator.

19. (Currently Amended) A welding torch device in accordance with claim 1, wherein:

~~an introduction of supply material into the welding torch~~ the leadthrough is coaxial arranged in the welding torch device and has a recess with a longitudinal axis which is in alignment with ~~[[a]] the rotational axis of the connection device for an introduction of supply~~  
5 ~~material into the welding torch~~; and

the inner stator is provided with the current transfer device having the electrical connection for the welding power cable, said connection current transfer device being lead through the fixing device to the connection device of the robot, whereby the rotational axis with which the rotor is rotatable is at least essentially aligned to the rotational axis of the  
10 connection device.

20. (Currently Amended) A welding robot for welding workpieces, comprising:

a folding arm robot provided with a connection device having a connection device rotational axis; and

a welding torch device connected to said flange, said welding device comprising:

5 a rotor ~~arrangement~~ assembly with a fixing device with a fixing device rotor for attaching the welding torch device to the welding robot and a receiving device for holding a welding torch and for transferring driven rotatory motions to the welding torch, the welding

torch having a welding torch rotational axis that is coaxial with the connection device rotational axis;

10           a stator ~~arrangement~~ assembly with an electrical connection for a welding power cable, the welding power cable being connected to the stator in a non-rotatable manner, by means of which a robot side of the welding torch device ~~can be~~ is electrically connected to a welding power source, a current transfer device, via which the welding power cable ~~can be~~ is electrically connected to a welding torch side of the welding torch device, wherein the stator

15   ~~arrangement~~ assembly is rotationally fixed in relation to the robot arm, but ~~can be~~ is rotated in relation to the connection device on the welding robot side, the stator ~~arrangement~~ assembly including a stator defining an essentially centric leadthrough guiding expendable supply material required for ~~the a~~ welding process in the direction of the receiving device, wherein the rotor assembly is rotatable in relation to the stator assembly and the fixing device rotor is an

20   outer rotor and the stator is an inner stator surrounded by the outer rotor, and the receiving device and/or the fixing device is connected to the stator in an electrically conductive manner by means of an electric contact means, the fixing device of the rotor assembly for attaching to the connection device of the robot whereby a rotational axis of the rotor assembly is at least essentially aligned with the connection device rotational axis ~~of the connection device~~ of the

25   robot and the rotor assembly is rotatable about the rotational axis as well as about the stator assembly and, the stator being led coaxially through the connection flange of the robot arm.

21. (Previously Presented) A welding robot in accordance with claim 19, wherein



a longitudinal axis of the leadthrough is aligned with the rotational axis of the connection device; and

5 the stator assembly has a rotationally fixed electric connection for the welding cable, through which the rotational axis of the connection device runs and further comprising: a lead through of the receiving device for welding wire for the welding torch, whereby the leadthrough of the stator assembly and the leadthrough of the receiving device run at least essentially coaxially to one another; and wherein a longitudinal axis of a recess of the leadthrough of the stator assembly runs at least essentially coaxially to the rotational axis of  
10 the rotatory motion of the connection device.